

Release notes for ENDF/B Development photoat-051_Sb_000
evaluation

ENDF
B-VII.dev

October 13, 2016

- checkr Warnings:

1. A previous error halted parsing of the current section
MAT=5100, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=5100, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      160 TO      189
```

- checkr Errors:

1. A variable is outside the allowed ENDF range
MAT=5100, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=5100, MF= 1, MT=451
MOD =      3 OUT OF RANGE      0 -      1      RECORD NUMBER      160
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=501
SECTION 23/501 NOT IN DIRECTORY      RECORD NUMBER      191
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=502
SECTION 23/502 NOT IN DIRECTORY      RECORD NUMBER      1083
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=504
SECTION 23/504 NOT IN DIRECTORY      RECORD NUMBER      1494
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=515
SECTION 23/515 NOT IN DIRECTORY      RECORD NUMBER      1535
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5100, MF=23, MT=516
SECTION 23/516 NOT IN DIRECTORY      RECORD NUMBER      1569
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=517 (0): Directory (b)

ERROR(S) FOUND IN MAT=5100, MF=23, MT=517
SECTION 23/517 NOT IN DIRECTORY RECORD NUMBER 1622

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=522 (0): Directory (b)

ERROR(S) FOUND IN MAT=5100, MF=23, MT=522
SECTION 23/522 NOT IN DIRECTORY RECORD NUMBER 1662

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=534 (0): Directory (b)

ERROR(S) FOUND IN MAT=5100, MF=23, MT=534
SECTION 23/534 NOT IN DIRECTORY RECORD NUMBER 2082

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=535 (0): Directory (b)

ERROR(S) FOUND IN MAT=5100, MF=23, MT=535
SECTION 23/535 NOT IN DIRECTORY RECORD NUMBER 2104

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=536 (0): Directory (b)

ERROR(S) FOUND IN MAT=5100, MF=23, MT=536
SECTION 23/536 NOT IN DIRECTORY RECORD NUMBER 2131

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=537 (0): Directory (b)

ERROR(S) FOUND IN MAT=5100, MF=23, MT=537
SECTION 23/537 NOT IN DIRECTORY RECORD NUMBER 2157

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=538 (0): Directory (b)

ERROR(S) FOUND IN MAT=5100, MF=23, MT=538
SECTION 23/538 NOT IN DIRECTORY RECORD NUMBER 2184

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=539 (0): Directory (b)

ERROR(S) FOUND IN MAT=5100, MF=23, MT=539
SECTION 23/539 NOT IN DIRECTORY RECORD NUMBER 2212

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=540 (0): Directory (b)

- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=5100, MF=23, MT=540 | |
| | SECTION 23/540 NOT IN DIRECTORY | RECORD NUMBER 2250 |
16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=541 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=5100, MF=23, MT=541 | |
| | SECTION 23/541 NOT IN DIRECTORY | RECORD NUMBER 2284 |
17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=542 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=5100, MF=23, MT=542 | |
| | SECTION 23/542 NOT IN DIRECTORY | RECORD NUMBER 2325 |
18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=543 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=5100, MF=23, MT=543 | |
| | SECTION 23/543 NOT IN DIRECTORY | RECORD NUMBER 2370 |
19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=544 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=5100, MF=23, MT=544 | |
| | SECTION 23/544 NOT IN DIRECTORY | RECORD NUMBER 2404 |
20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=545 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=5100, MF=23, MT=545 | |
| | SECTION 23/545 NOT IN DIRECTORY | RECORD NUMBER 2446 |
21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=546 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=5100, MF=23, MT=546 | |
| | SECTION 23/546 NOT IN DIRECTORY | RECORD NUMBER 2487 |
22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=547 (0): Directory (b)
- | | | |
|--|---|--------------------|
| | ERROR(S) FOUND IN MAT=5100, MF=23, MT=547 | |
| | SECTION 23/547 NOT IN DIRECTORY | RECORD NUMBER 2559 |
23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=550 (0): Directory (b)

- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5100, MF=23, MT=550 | RECORD NUMBER | 2631 |
| SECTION 23/550 NOT IN DIRECTORY | | |
24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=551 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5100, MF=23, MT=551 | RECORD NUMBER | 2683 |
| SECTION 23/551 NOT IN DIRECTORY | | |
25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=23, MT=552 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5100, MF=23, MT=552 | RECORD NUMBER | 2731 |
| SECTION 23/552 NOT IN DIRECTORY | | |
26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=27, MT=502 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5100, MF=27, MT=502 | RECORD NUMBER | 2780 |
| SECTION 27/502 NOT IN DIRECTORY | | |
27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=27, MT=504 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5100, MF=27, MT=504 | RECORD NUMBER | 2831 |
| SECTION 27/504 NOT IN DIRECTORY | | |
28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=27, MT=505 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5100, MF=27, MT=505 | RECORD NUMBER | 2883 |
| SECTION 27/505 NOT IN DIRECTORY | | |
29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5100, MF=27, MT=506 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5100, MF=27, MT=506 | RECORD NUMBER | 3033 |
| SECTION 27/506 NOT IN DIRECTORY | | |

• fudge-4.0 Warnings:

- generic warning message
reaction label 0: Sb + gamma [coherent] / Product: gamma (Error # 0): Warning

WARNING: coherentScattering is not a valid distribution component for 2-body reaction
- FIXME: Generic fudge unimplemented message
reaction label 0: Sb + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

WARNING: Checking not yet implemented for pointwise type data

3. generic warning message
reaction label 1: Sb + gamma [incoherent] / Product: gamma (Error # 0): Warning

WARNING: incoherentScattering is not a valid distribution component for 2-body reaction

4. FIXME: Generic fudge unimplemented message
reaction label 1: Sb + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

WARNING: Checking not yet implemented for piecewise type data

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 21: total (Error # 0): Sumrule

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 23: photoelectric absorption (Error # 0): Sumrule

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 71.95%

• fudge-4.0 Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Sb + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

2. 2-body reaction not in center-of-mass frame
reaction label 0: Sb + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

WARNING: 2-body reaction not in center-of-mass frame!

3. Calculated and tabulated thresholds don't agree
reaction label 1: Sb + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

4. 2-body reaction not in center-of-mass frame
reaction label 1: Sb + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

WARNING: 2-body reaction not in center-of-mass frame!

5. Energy range of data set does not match cross section range
reaction label 1: Sb + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)

6. Calculated and tabulated thresholds don't agree
reaction label 2: $e^- + e^+ + Sb$ [electron field] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!
7. Calculated and tabulated thresholds don't agree
reaction label 3: $e^- + e^+ + Sb$ [nuclear field] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
8. Calculated and tabulated thresholds don't agree
reaction label 4: $e^- + Sb1s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 30479. eV!
9. Calculated and tabulated thresholds don't agree
reaction label 5: $e^- + Sb2s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4673.7 eV!
10. Calculated and tabulated thresholds don't agree
reaction label 6: $e^- + Sb2p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4386. eV!
11. Calculated and tabulated thresholds don't agree
reaction label 7: $e^- + Sb2p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4130.5 eV!
12. Calculated and tabulated thresholds don't agree
reaction label 8: $e^- + Sb3s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 928.98 eV!
13. Calculated and tabulated thresholds don't agree
reaction label 9: $e^- + Sb3p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 809.16 eV!
14. Calculated and tabulated thresholds don't agree
reaction label 10: $e^- + Sb3p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 761.6900000000001 eV!
15. Calculated and tabulated thresholds don't agree
reaction label 11: $e^- + Sb3d3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 547.79 eV!
16. Calculated and tabulated thresholds don't agree
reaction label 12: $e^- + Sb3d5/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 537.85 eV!

17. Calculated and tabulated thresholds don't agree
reaction label 13: $e^- + Sb4s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 158.27 eV!
18. Calculated and tabulated thresholds don't agree
reaction label 14: $e^- + Sb4p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 117.02 eV!
19. Calculated and tabulated thresholds don't agree
reaction label 15: $e^- + Sb4p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 108.12 eV!
20. Calculated and tabulated thresholds don't agree
reaction label 16: $e^- + Sb4d3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 41.87 eV!
21. Calculated and tabulated thresholds don't agree
reaction label 17: $e^- + Sb4d5/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 40.56 eV!
22. Calculated and tabulated thresholds don't agree
reaction label 18: $e^- + Sb5s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 15.92 eV!
23. Calculated and tabulated thresholds don't agree
reaction label 19: $e^- + Sb5p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.73 eV!
24. Calculated and tabulated thresholds don't agree
reaction label 20: $e^- + Sb5p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.02 eV!
25. Calculated and tabulated thresholds don't agree
summedReaction label 21: total / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!
26. Calculated and tabulated thresholds don't agree
summedReaction label 22: pair product / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!
27. Calculated and tabulated thresholds don't agree
summedReaction label 23: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.02 eV!

- **xsectplotter** Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

```
stderr while processing crossSection
```

```
/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: RuntimeWarning: ... [3 more lines]
```